NEW JERSEY STATEWIDE SURVEILLANCE

Week 26 Report for 23 June to 29 June, 2004

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Purpose: Data from 84 New Jersey light traps contributed by county mosquito control agencies are used to calculate trends in mosquito populations for species of nuisance or health concerns.

Calculations are based on regional distributions, with emphasis on mosquito habitat and land use. Trends will allow a statewide evaluation of changing mosquito populations, in response to control and/or changes in habitat.

This is New Jersey Agricultural Experiment Station publication No. PT-08-40500-28-04 supported by Hatch funds and funding from the NJ State Mosquito Control Commission. Prepared by Lisa M. Reed and Wayne J. Crans.

Figure 1a: Map of ten regions selected for the New Jersey Surveillance Program overlaid with county boarders.

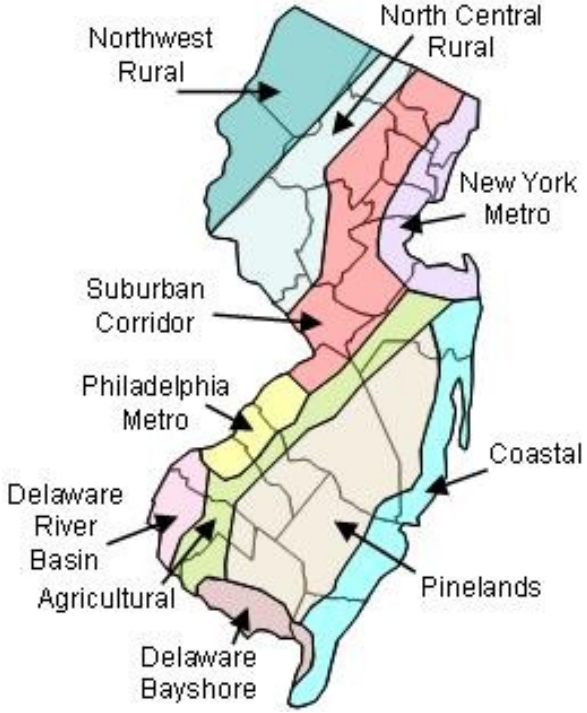


Figure 1b. Trap lat-long locations.

Summary table

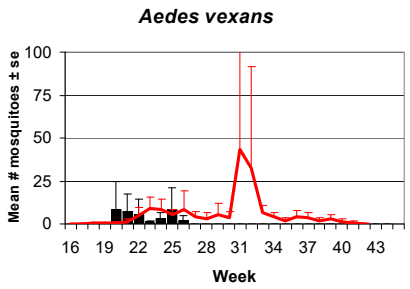
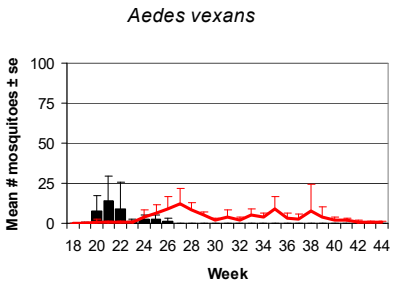
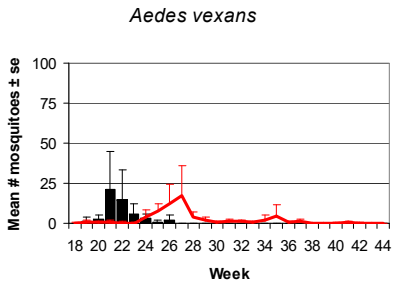
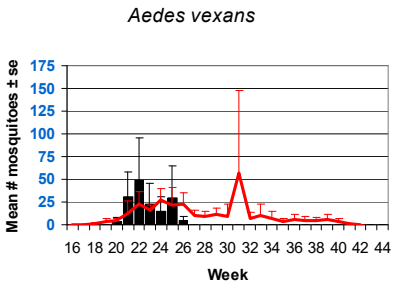
	Aedes vexans		*Culex complex*		*Coquillettidia perturbans*		*Ochlerotatus sollicitans*	
Region	This Week	Average*	This Week	Average*	This Week	Average*	This Week	Average*
Agricultural	**1.83**	**8.44**	**4.31**	**17.05**	**0.60**	**1.06**	**0.23**	**1.46**
Coastal	**1.35**	**9.23**	**2.11**	**13.74**	**0.10**	**1.97**	**14.43**	**34.69**
Delaware Bayshore	**1.81**	**12.91**	**12.07**	**53.55**	**0.12**	**16.29**	**16.74**	**15.40**
Delaware River Basin	**4.46**	**26.72**	**1.96**	**14.24**	**0.14**	**0.24**	**0**	**1.36**
New York Metro	**0.67**	**6.62**	**1.73**	**15.37**	**0.01**	**0.27**	**0.19**	**0.98**
North Central Rural	**0.61**	**4.29**	**0.33**	**4.99**	**0.18**	**0.17**	**0**	**0**
Northwest Rural	**0.19**	**12.27**	**0.05**	**5.18**	**3.07**	**0.31**	**0**	**0**
Philadelphia Metro	**0.00**	**20.18**	**0.00**	**13.31**	**1.55**	**0.19**	**0**	**0**
Pinelands	**0.65**	**7.42**	**0.66**	**10.26**	**3.08**	**0.86**	**0.13**	**0.44**
Suburban Corridor	**0. 52**	**28.22**	**0.73**	**11.80**	**2.91**	**58.41**	**0.01**	**0.29**

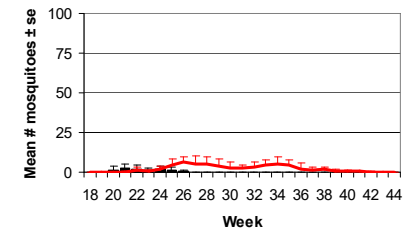
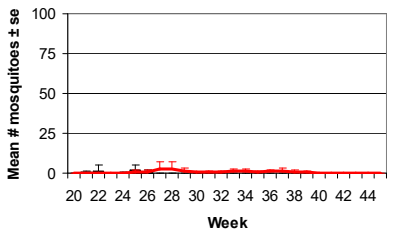
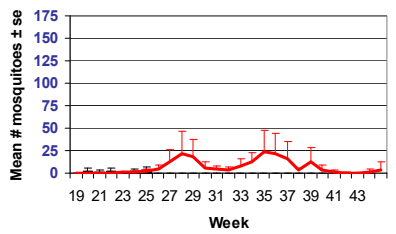
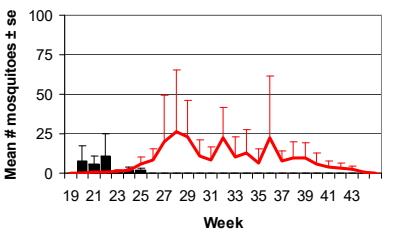
- Complete data not yet available.

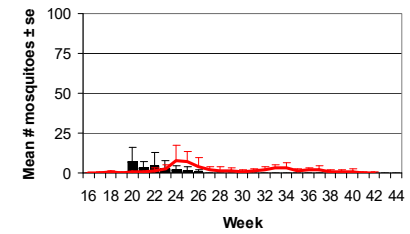
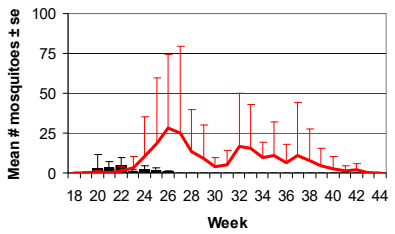
Additional Species, including *Cs. melanura, Ochlerotatus cantator,* and *Ochlerotatus japonicus*.

16 Counties reporting (19 counties on week 25).

Aedes vexans - Fresh Floodwater Species

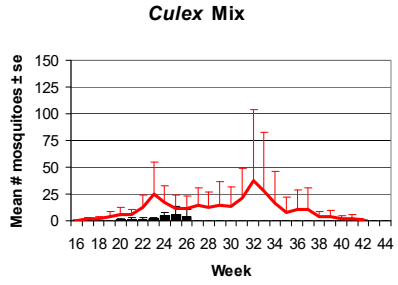
Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
			

New York Metro	North Central Rural	Northwestern Rural	Philadelphia Metro
			

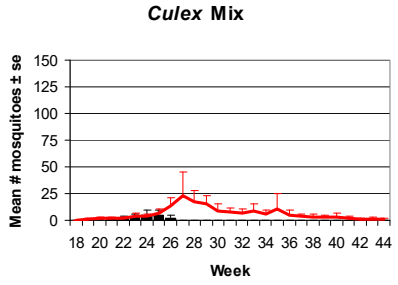
Pinelands	Suburban Corridor	Comments
		*Aedes vexans* populations remain static in most regions. Recent dry weather has apparently not produced enough rainfall to trigger major broods. Data from the Delaware River Basin region suggests a bimodal emergence. The high populations in that region may be associated with dredge spoil habitat where dredging operations produce flooding in the absence of rainfall

Culex Complex - Multivoltine *Culex* Species

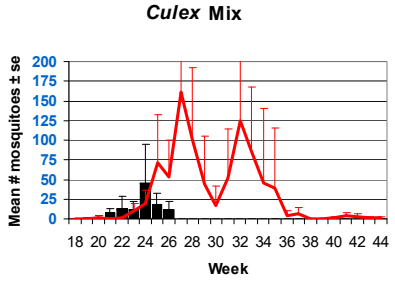
Agricultural



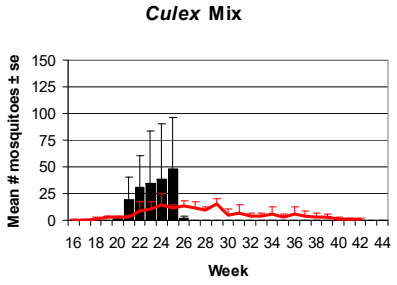
Coastal



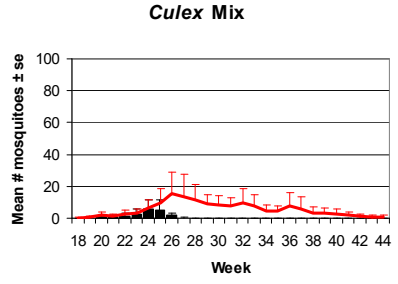
Delaware Bayshore



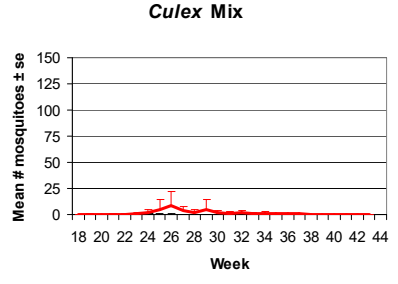
Delaware River Basin



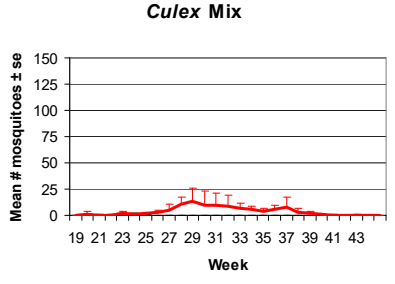
New York Metro



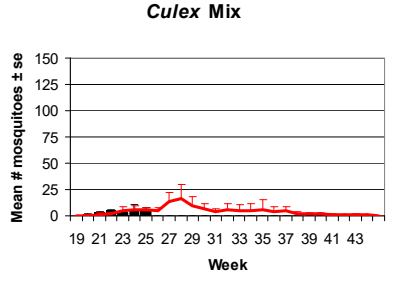
North Central Rural



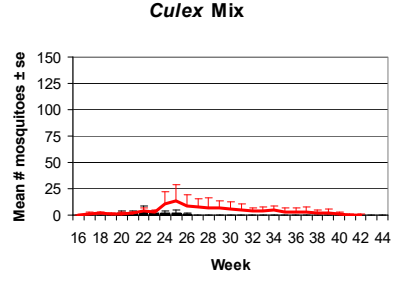
Northwestern Rural



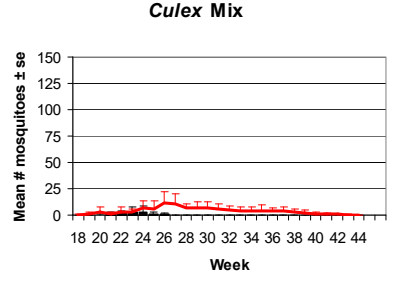
Philadelphia Metro



Pinelands



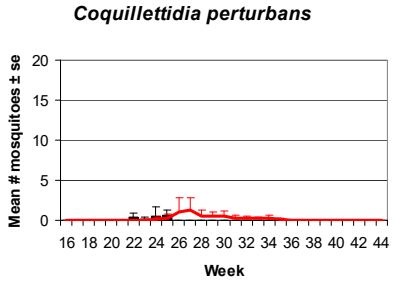
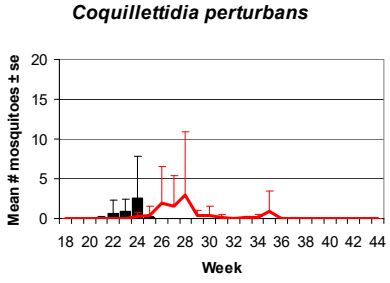
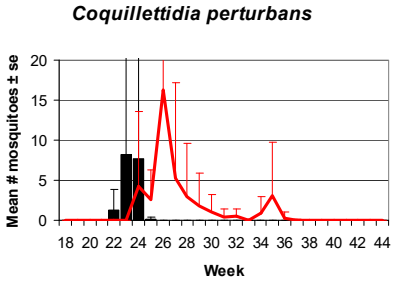
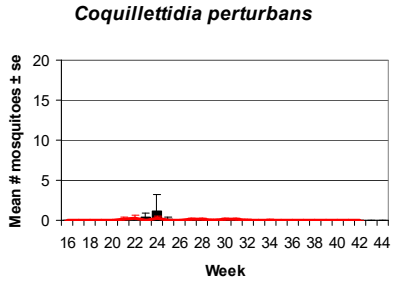
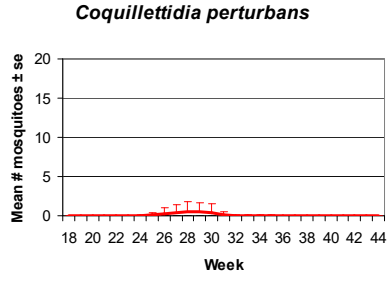
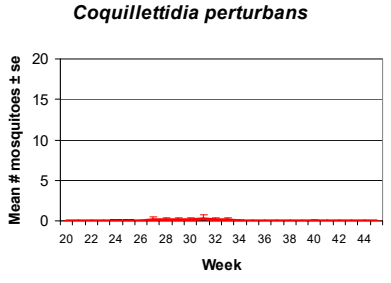
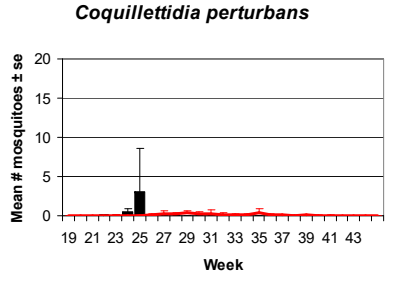
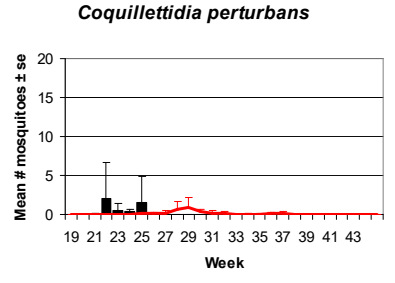
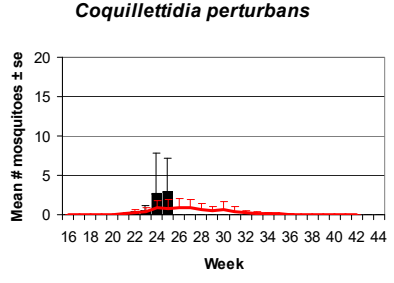
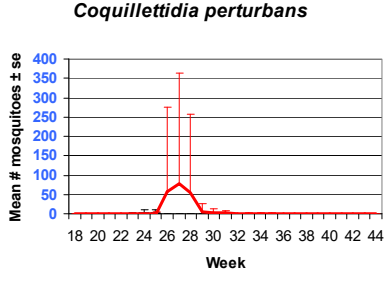
Suburban Corridor



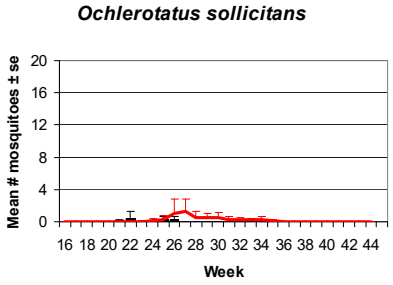
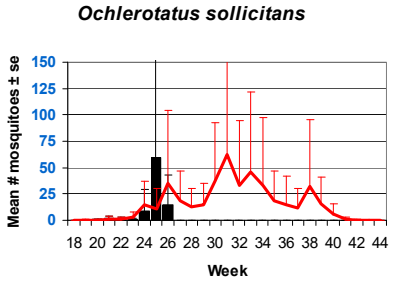
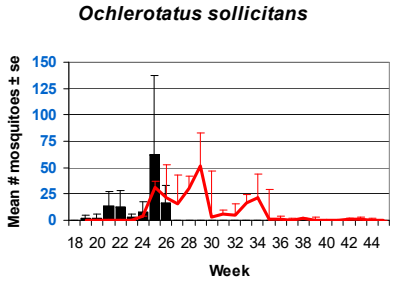
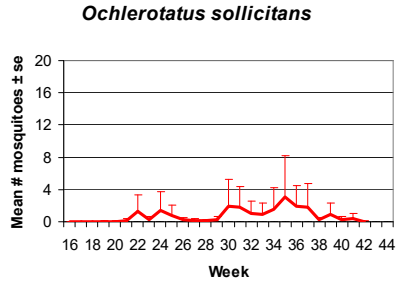
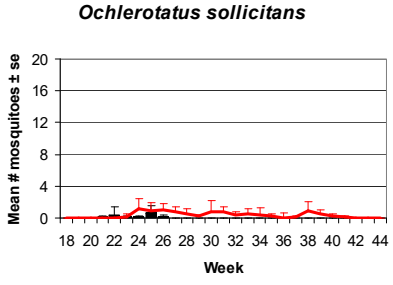
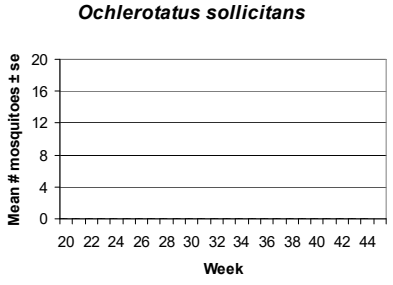
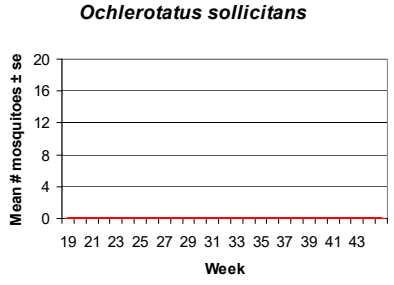
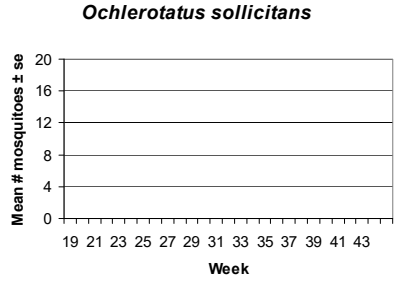
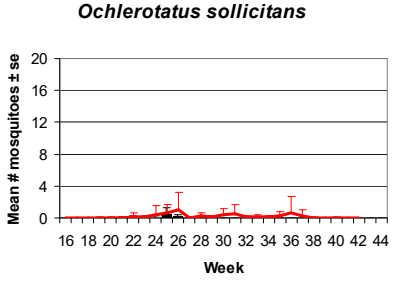
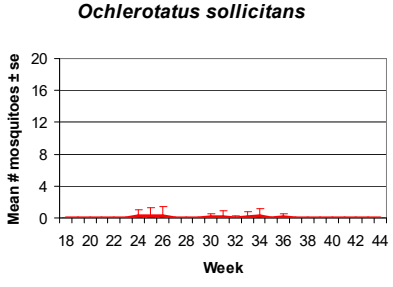
Comments

Culex populations (representing the three species) are low in comparison with historical trends throughout the state, with the exception of the Delaware River Basin region. The high populations in that region, coupled with the data from *Aedes vexans* support the possibility of dredge spoil operations having an impact on mosquito production.

Coquillettidia perturbans - Unique Life Cycle

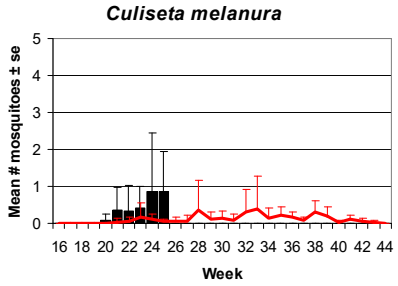
Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
			
New York Metro	**North Central Rural**	**Northwestern Rural**	**Philadelphia Metro**
			
Pinelands	**Suburban Corridor**	**Comments**	
		No changes have occurred from the previous week's trend in *Coquillettidia perturbans* population levels. Larvae that overwintered as late instars likely have all emerged. A second population peak is possible if significant number of larvae overwintered as early instars.	

Ochlerotatus sollicitans - Salt Marsh Floodwater Species

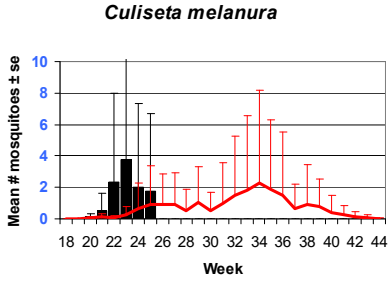
Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
			
New York Metro	**North Central Rural**	**Northwestern Rural**	**Philadelphia Metro**
			
Pinelands	**Suburban Corridor**	**Comments**	
		With sufficient numbers in the database, the Delaware Bayshore and Coastal regions clearly show the effect of lunar tides on *Ochlerotatus sollicitans* emergences. These trends do not look exceptionally out of the ordinary from historic data, and should continue into October.	

Culiseta melanura - Miscellaneous Group

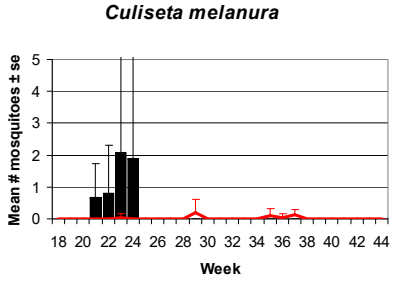
Agricultural



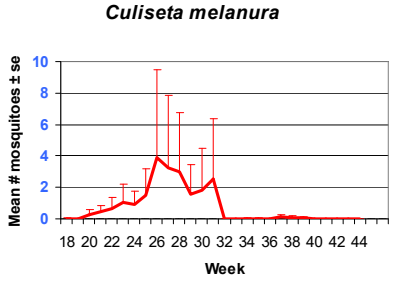
Coastal



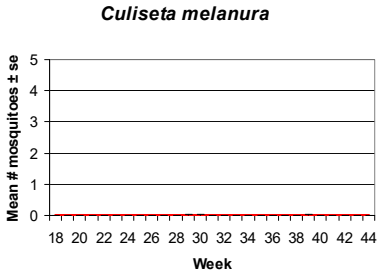
Delaware Bayshore



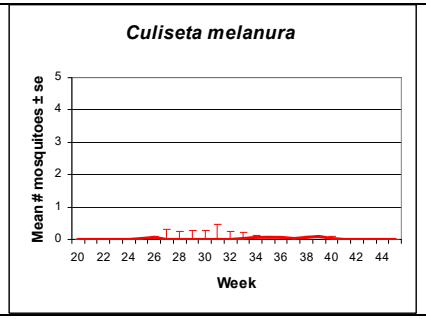
Delaware River Basin



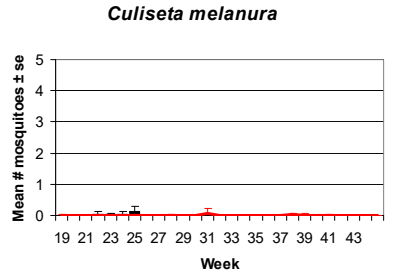
New York Metro



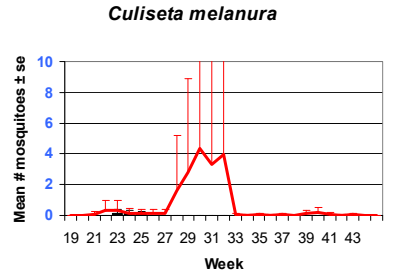
North Central Rural



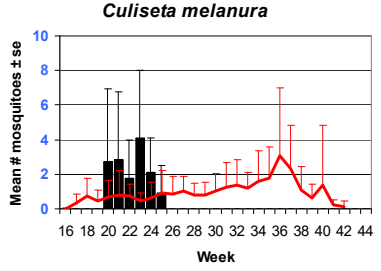
Northwestern Rural



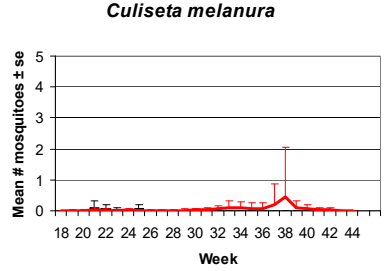
Philadelphia Metro



Pinelands



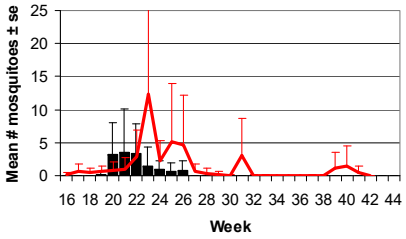
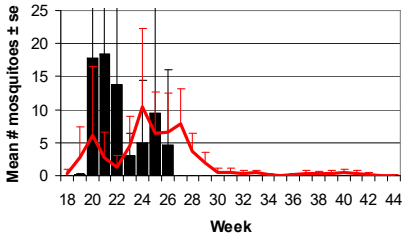
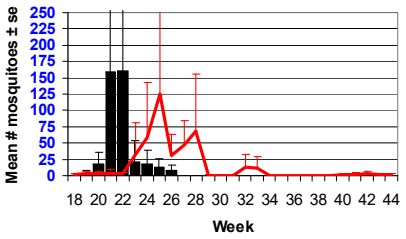
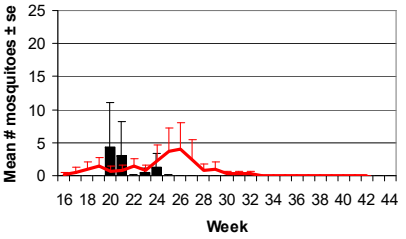
Suburban Corridor

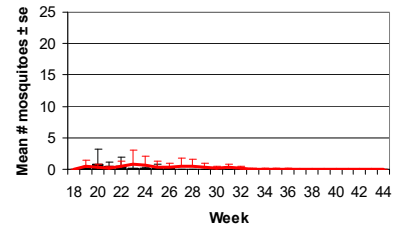
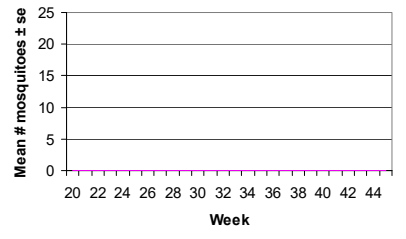
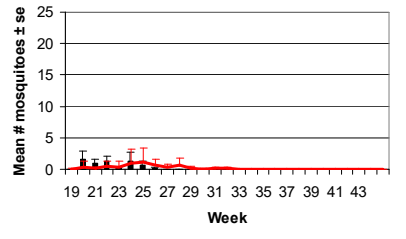
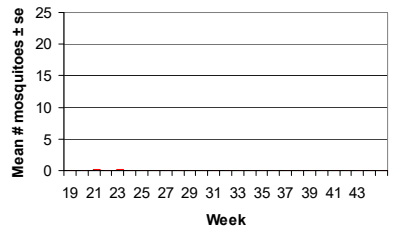


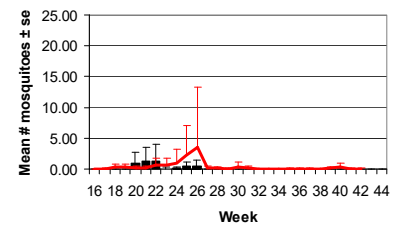
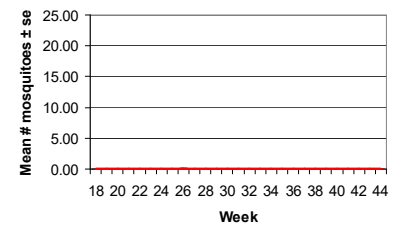
Comments

As with the previous species, no changes have taken place from the previous weeks' trend. Resting box records suggests that numbers are declining, and should continue to do so until the second generation appears in late July or early August. The Delaware River Basin and Philadelphia Metro regions continue to show an unusual absence of *Cs. melanura* activity.

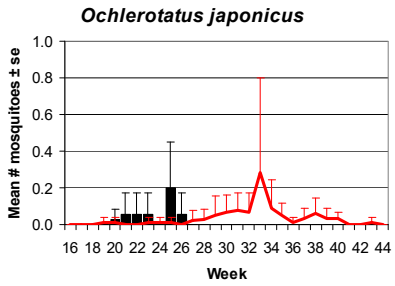
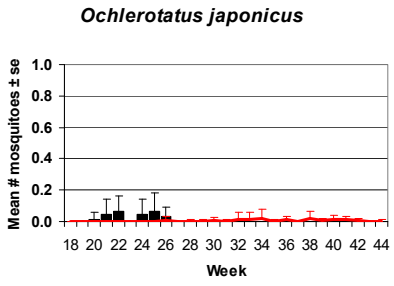
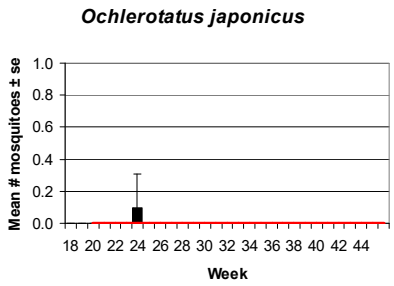
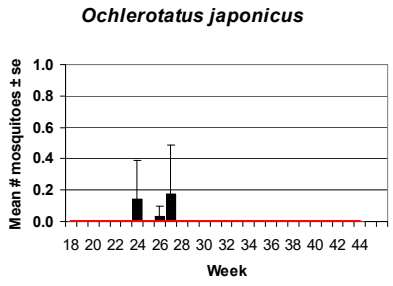
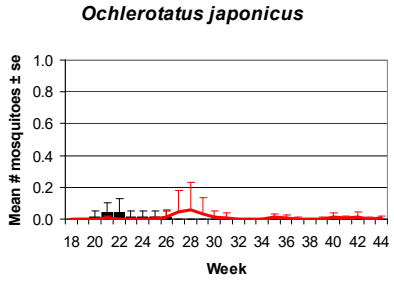
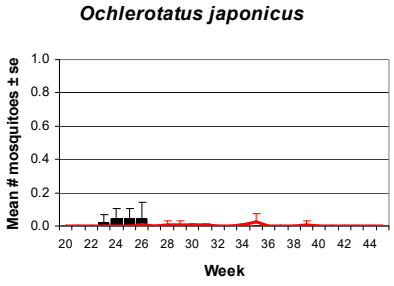
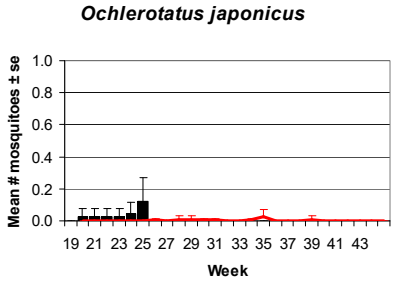
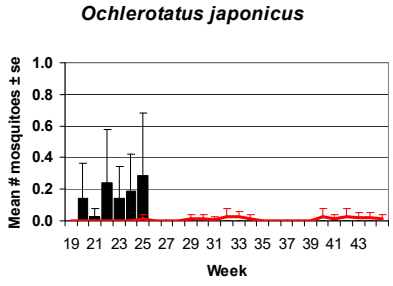
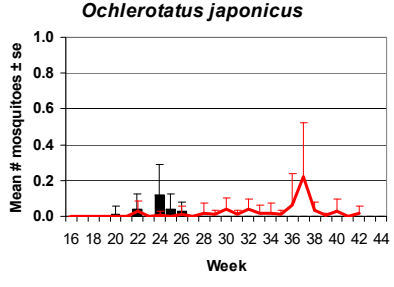
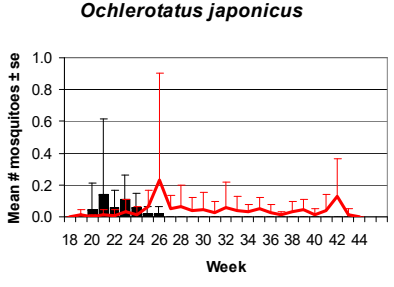
Ochlerotatus cantator - Multivoltine Aedine Species

Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
			

New York Metro	North Central Rural	Northwestern Rural	Philadelphia Metro
			

Pinelands	Suburban Corridor	Comments
		*Ochlerotatus cantator* populations have been exceptionally high this season along the Coastal and Delaware Bayshore regions. This species appeared early enough to show two distinct broods in the Atlantic coast region. Enormous numbers were collected in the Delaware Bayshore region, where populations exceeded 150 mosquitoes per trap night, well above the historical mean. Historical data show that this is a spring species, and further large broods are not as likely to occur for the rest of the season.

Ochlerotatus japonicus – Multivoltine Aedine

Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
			
New York Metro	**North Central Rural**	**Northwestern Rural**	**Philadelphia Metro**
			
Pinelands	**Suburban Corridor**	**Comments**	
		State surveillance data show that *Oc. japonicus* is now a statewide pest. Although the species rarely enters light traps, collections exceed the long-term mean in all regions monitored by this program. The Philadelphia region shows the highest increases, suggesting that this species may be adapting as an urban pest.	